



Environmental Lesson Plan



5E Learning Sequence: Grades K-3

*Developed by K-12 Science Education Specialists in L.A. County and Aligned With:
California Common Core Standards,
Next Generation Science Standards (NGSS), and
California Environmental Principles and Concepts (CA EP&C)*

Objective	3
Standards	3
Teacher Background.....	5
Advanced Preparation	7
Time Needed.....	8
Materials Needed	8
Literacy Books	9
Vocabulary	10
Directions	11
Resources	16

LESSON PLAN

Objective

Students will gain a shared understanding of what pollutants are and how they end up in our streams, lakes, rivers and oceans. Through a teacher created model of a watershed, students will understand how rainwater collects in streams, lakes, rivers and oceans and how pollutants in the streets end up in these locations. In addition, students will take a walking field trip around their schools' neighborhood to locate the storm drain inlets (or catch basins) and identify the pollutants that possibly can end up going to the ocean. Students will raise awareness of the importance of keeping pollutants off our streets and our watersheds through the development of a public service announcement.

Standards

Next Generation Science Standards (NGSS)

- [2-PS1-1](#) Plan and conduct an investigation to describe and classify different kinds of material by their observable properties.
- [2-ESS2-2](#) Develop a model to represent the shapes and kinds of land and bodies of water in area.
- [2-ESS2-3](#) Obtain information to identify where water is found on Earth and that it can be a solid or liquid.
- [3-LS4-4](#) Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
- [3-ESS3-1](#) Make a claim about the merit of a design solution that reduces the impacts of weather-related hazard.
- [K-2-ETS1-1](#) Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- [K-2-ETS1-2](#) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- [3-5-ETS1-1](#) Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.
- [3-5-ETS1-2](#) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

California Environmental Principles and Concepts (CA EP&C)

- Principle I People Depend on Natural Systems
- Principle II People Influence Natural Systems

Common Core State Standards - Language Arts

Reading: Informational Text

Key Ideas and Details:

- [CCSS.ELA-LITERACY.RI.1.1](#) Ask and answer questions about key details in a text.

- [CCSS.ELA-LITERACY.RI.1.2](#) Retell stories, including key details, and demonstrate understanding of their central message or lesson.
- [CCSS.ELA-LITERACY.RI.2.1](#) Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- [CCSS.ELA-LITERACY.RI.3.1](#) Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- [CCSS.ELA-LITERACY.RI.3.2](#) Determine the main idea of a text; recount the key details and explain how they support the main idea.
- [CCSS.ELA-LITERACY.RI.3.3](#) Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

Writing

Production and Distribution of Writing:

- [CCSS.ELA-LITERACY.W.1.5](#) With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
- [CCSS.ELA-LITERACY.W.1.6](#) With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
- [CCSS.ELA-LITERACY.W.2.6](#) With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Research to Build and Present Knowledge:

- [CCSS.ELA-LITERACY.W.1.8](#) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- [CCSS.ELA-LITERACY.W.2.7](#) Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
- [CCSS.ELA-LITERACY.W.2.8](#) Recall information from experiences or gather information from provided sources to answer a question.
- [CCSS.ELA-LITERACY.W.3.7](#) Conduct short research projects that build knowledge about a topic.

Text Types and Purposes:

- [CCSS.ELA-LITERACY.W.1.1](#) Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- [CCSS.ELA-LITERACY.W.1.2](#) Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.
- [CCSS.ELA-LITERACY.W.1.3](#) Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.
- [CCSS.ELA-LITERACY.W.3.1](#) Write opinion pieces on topics or texts, supporting a point of view with reasons.

- [CCSS.ELA-LITERACY.W.3.2](#) Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- [CCSS.ELA-LITERACY.W.3.3](#) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Speaking and Listening

Comprehension and Collaboration:

- [CCSS.ELA-LITERACY.SL.1.1](#) Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- [CCSS.ELA-LITERACY.SL.1.2](#) Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Presentation of Knowledge and Ideas:

- [CCSS.ELA-LITERACY.SL.1.4](#) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- [CCSS.ELA-LITERACY.SL.1.5](#) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
- [CCSS.ELA-LITERACY.SL.1.6](#) Produce complete sentences when appropriate to task and situation.
- [CCSS.ELA-LITERACY.SL.2.5](#) Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
- [CCSS.ELA-LITERACY.SL.3.4](#) Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

Teacher Background

A major source of pollution that ends up at our beaches or in our rivers, lakes, and oceans is a result of stormwater pollution. Stormwater is excess water that does not get absorbed into the ground during storms. As stormwater moves towards storm drains it picks up things like animal waste, litter, motor oil, yard clippings, plastic items, pesticides and other pollutants. These pollutants end up in our rivers, lakes, oceans and beaches and cause health related problems for children and harms aquatic life. Stormwater is not treated, therefore it goes straight to the ocean along with any pollutants it carries. A drainage system's primary function is to prevent flooding, unlike a sewage system which treats wastewater. Stormwater pollution also poses an increased risk to swimmers near storm drains that lead to the ocean or lakes. Those areas have a higher concentration of pollutants, which hurts ocean life, costs billions to clean up, and could lead to a loss of revenue from tourism as these recreational resources are closed to tourists. In this lesson students learn how we can all help reduce the extent of pollution in our rivers, lakes,

oceans and on our beaches (source: https://dpw.lacounty.gov/prg/stormwater/page_01.cfm).

The Clean Water Act (CWA) of 1972 controls pollutant discharge from what the Environmental Protection Agency (EPA) calls "point sources," like industrial, commercial, and municipal facilities, into any navigable waters of the United States. Point sources are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit, which requires compliance with technology- and water quality-based treatment standards. These polluters - such as mercury from Company A or untreated sewage from City - are easy to identify and monitor. They fall easily under the enforcement powers of the EPA. However, waterway pollution from what EPA calls "nonpoint" sources (NPS) are far harder to control.

What are nonpoint sources of pollution?

Nonpoint pollution comes mainly from our own backyards. NPS pollution is caused by rainfall, snowmelt or irrigation moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include:

- Oil, grease, and toxic chemicals from urban runoff and energy production
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks
- Salt from irrigation practices and acid drainage from abandoned mines
- Bacteria and nutrients from livestock, pet waste, and faulty septic systems

According to the EPA, nonpoint source pollution is the leading remaining cause of water quality problems. Nonpoint pollution is known to have harmful effects on drinking water, wildlife and - as we are now learning - our sport and seafood fisheries. Clearly, as urbanization continues, the effects of nonpoint pollution will only worsen unless we all participate in efforts to reduce or prevent the problem.

What can be done?

Some activities aimed at preventing nonpoint pollution are federal responsibilities, such as ensuring that federal lands are properly managed to reduce soil erosion. Some are state responsibilities; for example, developing legislation to govern mining and logging, and to protect groundwater. Others are best handled locally, such as by zoning or erosion control ordinances. And each individual can play an important role by practicing conservation and by changing certain everyday habits.

What can private citizens do?

According to the EPA, the best ways private citizens can help reduce the effects of nonpoint water pollution are:

- Keep litter, pet waste, leaves, and debris out of street gutters and storm drain inlets (or catch basins) - these drain directly to lakes, streams, rivers, oceans and wetlands.

- Apply lawn and garden chemicals sparingly and according to directions on the label.
- Dispose of used oil, antifreeze, paints, and other household chemicals properly, not in storm drains. If your community does not already have a program for collecting household hazardous wastes, ask your local government to establish one.
- Clean up spilled brake fluid, oil, grease, and antifreeze. Do not hose them into the street where they can eventually reach local streams and lakes.
- Control soil erosion on your property by planting ground cover and stabilizing erosion-prone areas.
- Encourage local government officials to develop construction erosion/sediment control ordinances in your community.
- Have your septic system inspected and pumped, at a minimum, every 3-5 years so that it operates properly.
- Purchase household detergents and cleaners that are low in phosphorous to reduce the amount of nutrients discharged into our lakes, streams and coastal waters.

(Source: http://dpw.lacounty.gov/prg/stormwater/Page_36.cfm)

Advanced Preparation

- Use Google Maps or other map making resource to prepare a local map of the areas around your school that shows the streets where storm drain inlets (or catch basins) may be found. This may require that you take a walk around your school area to choose the streets that will be included in the map. Make enough maps for your entire class. See sample map in the resources section and in the Stormwater Pollution PowerPoint presentation.
- Familiarize yourself with your local watershed area.
- Look at “All the Way to the Ocean” video to prepare for possible questions students may have after watching the video. Video link: https://www.youtube.com/watch?time_continue=5&v=sZW2ByM623g
- Create your class watershed by crumbling and wrapping the large piece of butcher paper, open it up and carefully placing it on a desk where the students can observe it. Make sure to secure the butcher paper to the desk with tape. Don’t forget to include in your watershed topographic features that range in height - from very low elevations like near or at sea level, valleys, mountains, etc. With different color markers, trace areas that delineate features such as mountain tops, streams, rivers, and lakes. Use small structures such as Legos or manipulative cubes to create structures such as buildings, houses, etc. See detailed directions and step by step photos in the Resources section.

Time Needed

8-9 periods (55-60 minutes each)

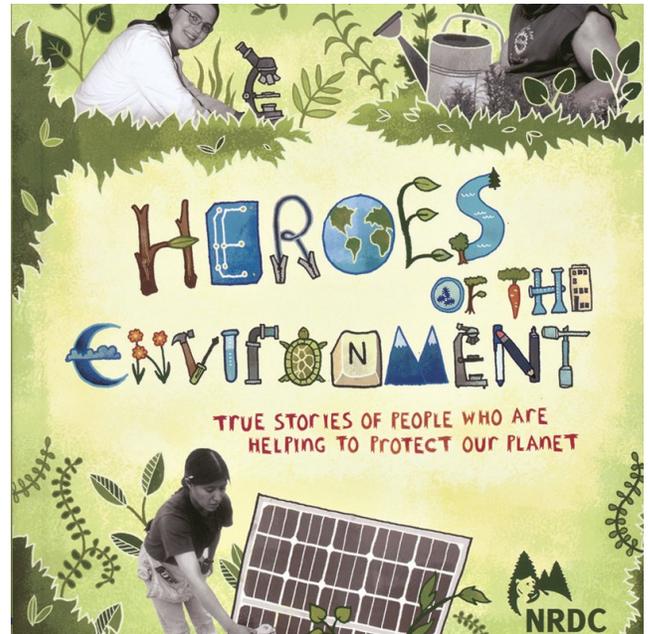
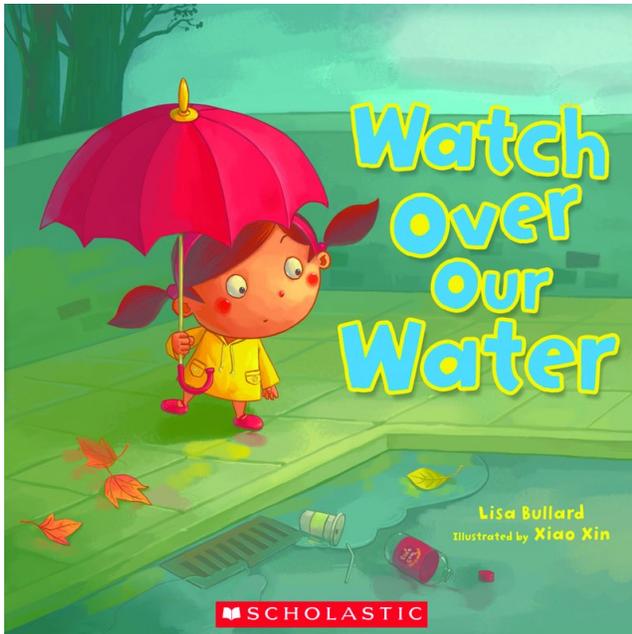
Materials Needed

- Stormwater Pollution (K-3) PowerPoint
- Class set of your school map for School Community Field Trip
- Markers and chart paper
- Class set of Flow Map
- WiFi Access
- Large piece of butcher paper (white allows you to identify topographical features with more ease but brown and green work as well)
- Shallow tray (optional)
- Spray bottle
- Tape
- Water
- Confetti

Literacy Books

Watch Over Our Water (Cloverleaf Books) by Lisa Bullard

Heroes of the Environment: True Stories of People Who Are Helping to Protect Our Environment by Harriet Rohmer



Vocabulary

Pollutant - Any substances that can hurt the environment.

Pollution - The presence of pollutants in the environment with adverse impact on humans, animals, and plants.

Stormwater Pollution - Excess water that runs down streets and storm drains carrying pollutants from the environment.

Storm Drain - Pipes or channels that collect stormwater from streets and conveys it to the ocean to prevent flooding.

Storm Drain Inlet (or Catch Basin) - An inlet device where stormwater enters a storm drain system, often located on the side of street curbs or in parking lots.

Watersheds - An area of land that contains a common set of streams and rivers that all drain into a single body of water, such as a larger river, a lake or an ocean (<http://www.mbgnet.net/fresh/rivers/shed.htm>).

Directions

(S1) Lesson Title - Stormwater Pollution

Introduction (Engage)

What are pollutants? (Time needed: 1 period)

Identifying Pollutants

1. (S2) Show students the picture of polluted beaches. Ask: *What is wrong with this picture?*
2. (S3) Ask: *How should a beach look?* Ask students which beach they would prefer to spend the day at with their family and/or friends. Ask students if they have seen places like in these pictures near their home or school, what did they think, how did they feel?
3. (S4) Ask them: *Who made all this waste and how do you think it ended up at the beach?* Chart their responses. Most of their responses will probably blame humans leaving waste at the beach, which helps to explain the “Who.” Explain to students that not all the waste on the beach was left there. Some of it arrived from far away. Ask students: *How would waste from miles away end up at the beach?*
4. (S5) What are pollutants? Go over the definition of pollutants with students. Ask them to identify the pollutants in each of the pictures.

Procedure (Explore 1) - Where does our water come from? How does water from the mountains get to the oceans? Where does rainwater go? What happens to the waste in our streets? (Time needed: 1-2 periods)

Our Community Watershed: Where does our water come from? Where does it go?

1. (S6) Ask students: Where does the water that we use at home come from? The water that we drink, cook, shower, wash clothes with? If students say that it comes from the sink or faucet, redirect them to tell you how it gets to their homes - through the plumbing.

2. (S7) Show students a picture of rain in various locations. Included in the pictures are mountain tops, valleys, cities, etc. Ask students: What happens to rainwater once it falls in all these different parts? Where does this rainwater go?
3. (S8) Direct students to follow the path of water from the mountains to the different streams that drain into lakes and rivers. Ask them: Where does the river end? Where does it drain to? The goal of this activity is for students to understand that an area of land that shares bodies of water such as rivers and streams that drain on to one major river or lake is known as a watershed. Ultimately, these rivers will drain to the ocean.
4. (Watershed Model) Take students to the already-made model of a watershed (directions in Advanced Preparation and Resources). Help them identify different areas in the watershed. As students are giving you the different locations, tape labels to the different areas (i.e., mountains, valleys, cities, lake, river, etc.). Ask them: What do you think this represents? What is this a model of?
5. (S9) Have students draw the model of the watershed in their science notebook. Ask them to include labels.
6. (Watershed Model) Using a spray bottle with water in it and with the nozzle set at the mist setting, spray water onto the watershed model to simulate rain. Make sure that enough water is sprayed so it “drains” down the different streams and rivers and on to the main river and eventually to the ocean. Have students observe closely what happens when it “rains.”

Procedure (Explain 1) - What is a watershed? Where does our water come from? Where does it go? (Time needed: 30 mins)

Watershed Model: Where does our water come from? Where does it go?

1. (S10) Tell students to go back to their original model drawing and now using arrows, draw them into the model to show the direction in which they observed the “rain” moving in the watershed. Students must include the beginning point of water in the watershed and where it drains to.
2. (S11) Ask them to include responses to the following questions in their notebooks: Where does our water come from? What happens when it rains? Where does water move to? How would you explain what a watershed is? You can have students pair up to discuss their answers before they write.

Procedure (Explore 2) - What happens to the waste/pollutants in our streets? Where do they end up? (Time needed: 1-2 periods)

Waste and Pollutants in our Streets: What happens to waste in our streets when it rains? How does the waste end up in beaches and oceans?

1. (S12) Have students focus on the city located in the watershed model. Tell them to think about when it rains in the area where they live, ask them: Where does the rain water go? Lead them to tell you that water goes down the storm drain inlets (or catch basins) along the sides of the street.
2. (S13) Show students the storm drain inlets/catch basin symbols and tell them that the storm drain inlets/catch basins will drain the water to the nearest creek, stream, or river.
3. (S14) Have students make a prediction in their notebooks as to where the water will go to from the storm drain inlet/catch basin. Remind them about what they learned in the Explore 1 section above.
4. (Watershed Model) Place some small pieces of confetti along the city streets. Ask them what they think the confetti represents. If they can't remember, tell them that harmful materials are known as pollutants. Ask them to give you some examples of pollutants they may have seen in streets. Examples may include plastic bottles, paper, car oil, soap from car washing, etc.
5. (S15) Show students the following prompt: What do you think will happen to pollutants in our streets when it rains? Where will these pollutants end up? Ask them to write or draw the progression of the pollutants describing the path or multiple "stops" the pollutants will take from the storm drain inlet/catch basin to where they think they will end up. With third graders, you can have them use the attached flow map graphic organizer. Give them a few minutes to write their answers. Then, have them share their thoughts with a partner and then transition to a whole class discussion.
6. (S16) Explain to students that when pollutants end up in water, it is known as stormwater pollution.
7. (S17) Show students the video [All the Way to the Ocean](#). Have a class discussion that summarizes what Isaac and James learned about stormwater pollution.

Conclusion (Elaborate) - Where are my community's storm drain inlets (or catch basins) located? How can we get our community involved to keep our storm drain inlets/catch basins free of waste and pollutants? (Time needed: 1 period)

Community Field Trip: Identifying my Community's Storm Drain Inlets/Catch Basins

1. (S18) Explain to students that they will be going on a walking field trip to identify storm drain inlets/catch basins found around the school and community streets. They will record the location of storm drain inlets/catch basins on their map. They will also record any items they identify as possible pollutants that may end up going down storm drain inlets/catch basins.
2. (S19) Show students the School Community Field Trip Map you created (directions in Advanced Preparations, there is also a sample in the resources). Explain to students that the goal of the walking field trip is to find the storm drain inlets/catch basins that have the symbols they saw previously (S13) on the streets around their school neighborhood. They must put a blue checkmark next to the approximate area on their School Community Field Trip Map where the storm drain inlet/catch basins are located.
3. (S20) After the walking field trip lead a discussion with the class about where they observed/recorded storm drain inlets/catch basins and what were some of the pollutants they saw along the way. Ask students: What will happen to all the waste/pollutants they found on the street?

Conclusion (Evaluate) - What can we do to avoid water pollution in our community? (Time needed: 1-2 periods)

***Public Service Announcement (PSA):
Let's Keep our Streets Clean to Avoid Water Pollution***

1. (S21) With a group, have the students write a letter, draw a poster, or put on a play that will be a Public Service Announcement (PSA) to raise community awareness about the importance of keeping the streets clean so water pollution can be avoided.
 - Place students into groups. Tell them that they will be creating a (PSA) that will teach their community how to prevent stormwater pollution.
 - PSAs build awareness of public issues in order to change people's behaviors and attitudes. According to the article, "How to Create the Perfect Public Service Announcement" by Jaclyn Bell* follow these steps:

- Choose your topic.
- Time for some research - you need to know your stuff!
- Consider your audience.
- Grab your audience's attention.
- Create a script and keep your script to a few simple statements.
- Storyboard your script.
- Film your footage and edit your PSA.
- Find your audience and get their reaction.

* <http://www.centerdigitaled.com/artsandhumanities/How-to-Create-the-Perfect-Public-Service-Announcement.html>

- Have students present their PSAs to the principal, parents and younger students and other stakeholders.
- Note: Instead of filming their PSA, students can act it out, write a letter and read it to the class or draw a poster and present it to others.

Resources

Los Angeles County Storm Drain System

The Los Angeles County Storm Drain System shows drains, channels, catch basins, and debris basins in the County of Los Angeles using a web-based map viewer. It currently includes facilities owned and maintained by the Los Angeles County Flood Control District (District), the City of Los Angeles, and United States Army Corps of Engineers (Corps). Information on the facilities, such as date built, size, and material can be obtained by selecting them. The plans are also available for the Corps and District facilities.

<http://dpw.lacounty.gov/fcd/stormdrain/index.cfm>

1 in 10 U.S. Beaches Are So Polluted They're Not Safe for Swimming, Report Says

From: http://www.huffingtonpost.com/2014/06/25/us-beaches-polluted-unsafe-swimming-nrdc-report-2014_n_5530246.html?ncid=fbklnkushpmsg00000043&ir=Science

Stormwater Pollution Basics

https://dpw.lacounty.gov/PRG/StormWater/Page_36.cfm

Stormwater Pollution FAQ

https://dpw.lacounty.gov/PRG/StormWater/Page_01.cfm

Pollution Tip Card

<http://dpw.lacounty.gov/LACFCD/SWQ/files/PollutionTipCard.pdf>

California Stormwater Quality Association

<https://www.casqa.org/resources/organizations-and-services>

MAKING A WATERSHED MODEL

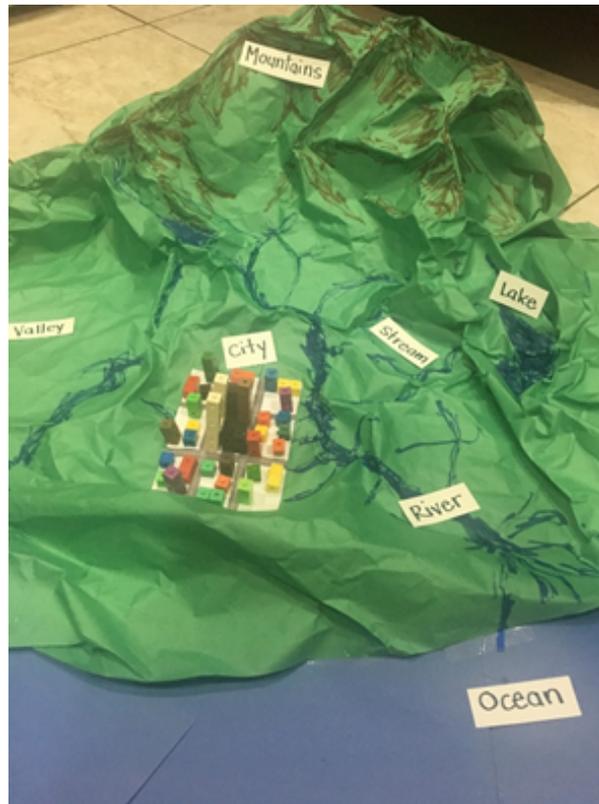


Photo Credit: Myra Pasquier

1. Create your class watershed by crumpling 3'X3' piece of butcher paper and spreading on top of a desk where the students can observe it. Set it on an open floor area in your classroom slightly slanted and the low side of the slope (which represents the beach) bordering the ocean. Having a shallow pan or tray at the ocean's end will make for easier clean up. Secure the butcher paper to the floor with tape. Your watershed should include topographic features that range in height - from very low elevations like near or at sea level, valleys, mountains, etc. but do not label them yet.



Photo Credit: Myra Pasquier

2. Use a blue marker to trace bodies of waters such as streams, rivers and lakes. Make sure that you have them all draining to single bodies of water such as a lake or a river. Make sure the river drains all the way to the end of the watershed at the ocean.



Photo Credit: Myra Pasquier

3. Place the generic street grid, in a flat area near the main river. Use small structures such as legos or manipulative cubes to create structures such as buildings, houses, etc. along the watershed. If possible make sure you connect areas in the streets to the river. (Figure 4a and 4b)

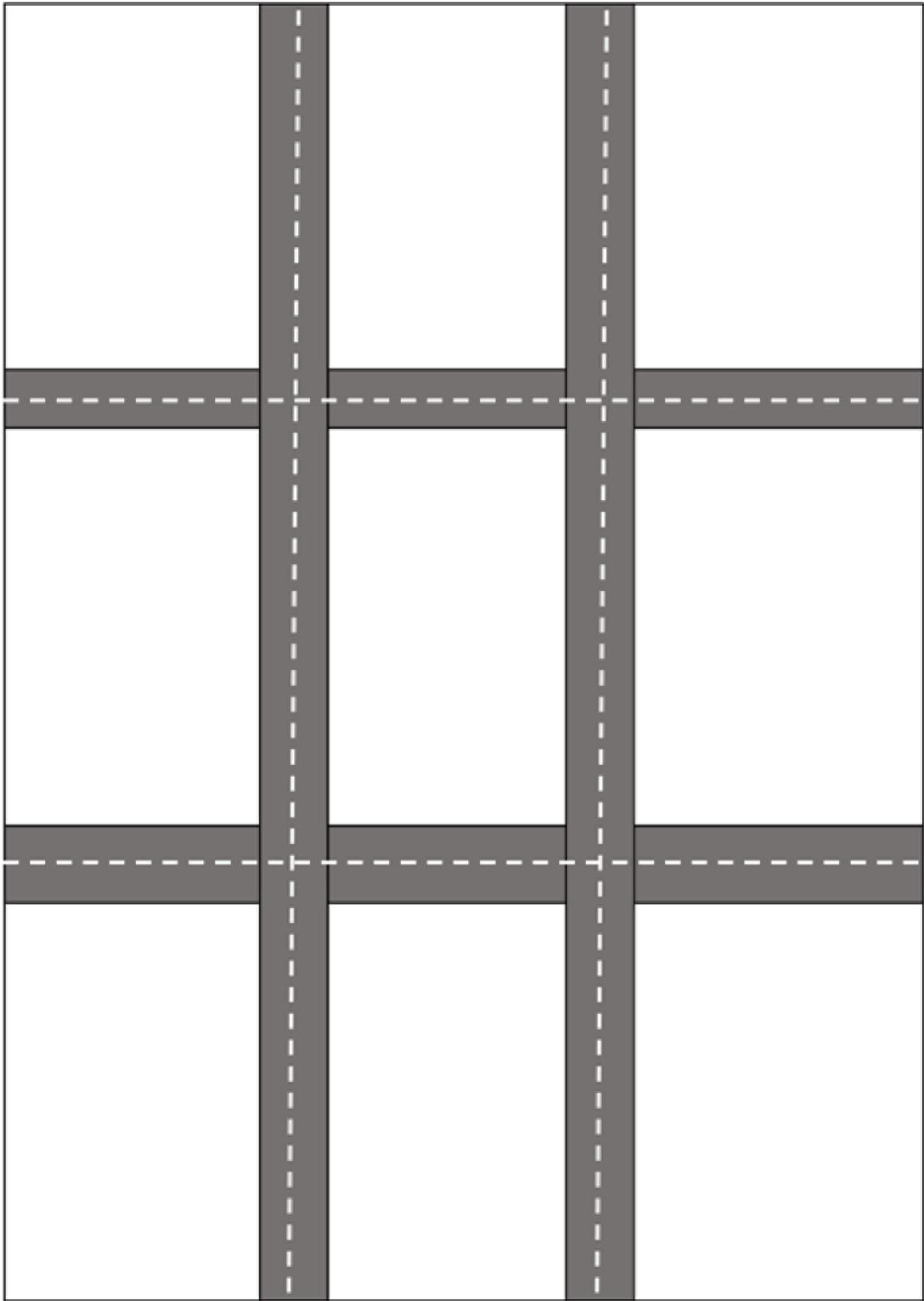


Photo Credit: Myra Pasquier

Watershed Model Labels

Mountains	Valley	City
Lake	Stream	River
Ocean		

Generic Street Grid (fit to size)



06/25/2014 04:53 pm ET Updated Jun 25, 2014

1 In 10 U.S. Beaches Are So Polluted They're Not Safe For Swimming, Report Says

By Sara Gates

You probably don't want to dip your toes in these dirty waters.

According to the 24th annual report released by the Natural Resources Defense Council, one in 10 U.S. beaches are dangerously polluted – so polluted, in fact, that they have been deemed unsafe for swimmers.

SCROLL FOR MAP

The environmental advocacy nonprofit collected water samples from nearly 3,500 American beaches and evaluated the specimens using the Environmental Protection Agency's new water safety standard, "Beach Action Value." The BAV sets a threshold for water quality at American beaches in order to protect swimmers from pollution – the majority of which is caused by sewage overflow and contaminated stormwater runoff.

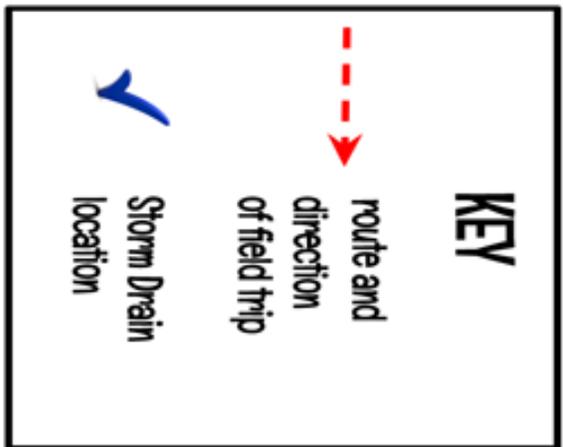
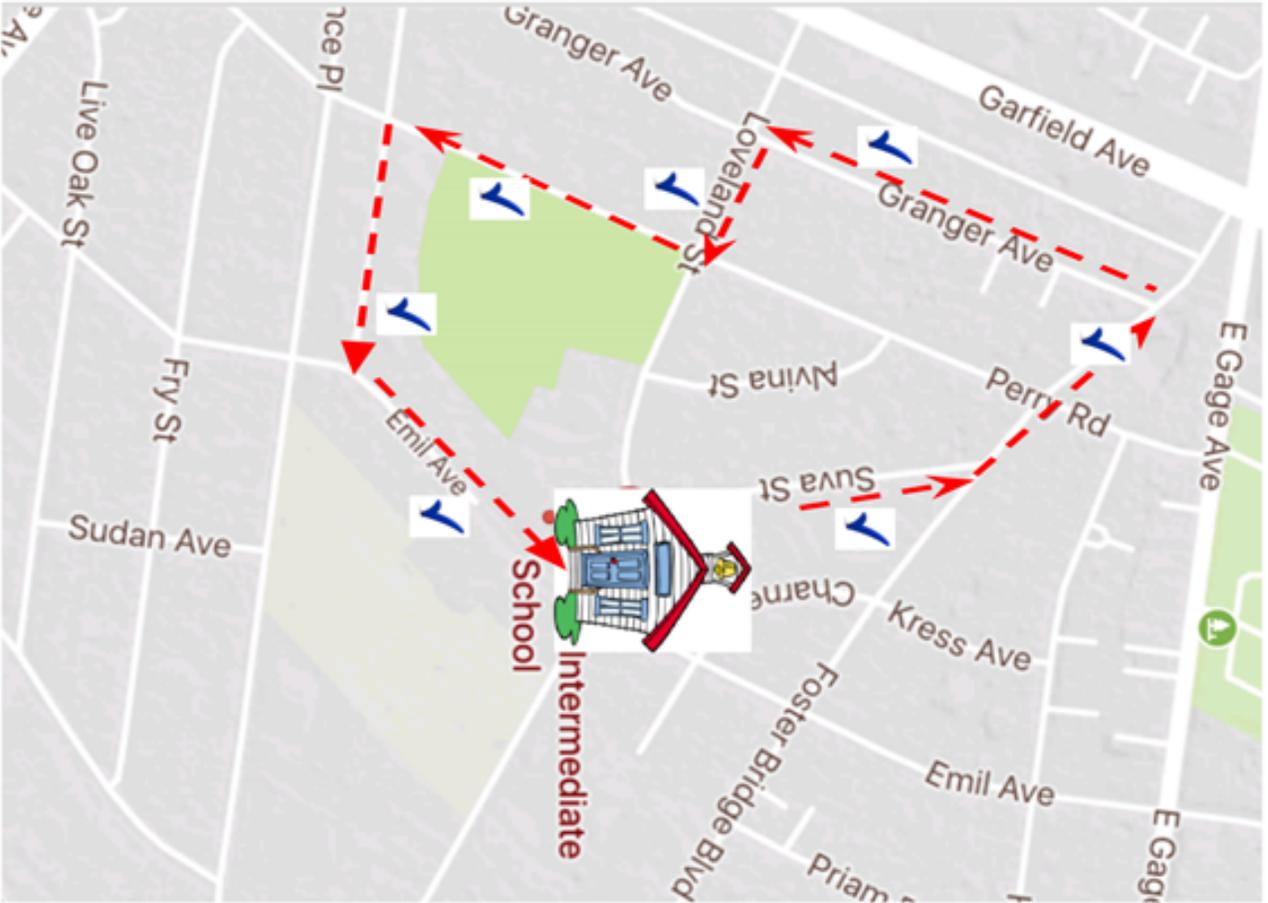
"Results in this year show uptick in failure rate at 10 percent nationwide, but this reflects a newer, more health-protected (standard of safety test)," NRDC senior attorney Jon Devine told USA Today. "If we were to compare to the old defunct standard, it would have been about 7 percent of samples; which tells us we're stagnating in terms of progress of water protection."

Under the findings, the NRDC identified 17 "repeat offenders," or beaches that violated the public health standard in more than 25 percent of its water quality samples throughout the past five years. Some repeat offenders included several polluted beaches in Indiana, New York and Ohio.

Of the regions with the most polluted beaches, the Great Lakes ranked the highest, followed by the Gulf Coast and New England.

As for the least polluted beach areas, the NRDC labeled 35 U.S. beaches as "superstars" since they met national benchmarks for water quality 98 percent of the time over the last five years. The beaches with top marks included waterfronts in 14 states, including California and Virginia.

See how the beaches in your state rank nationally by plugging your location into the interactive map. Check out the NRDC's suggestions for keeping beaches clean in the infographic, below. See link:



SAMPLE

Stormwater Fact Sheet

Stormwater Pollution in Los Angeles County

What is stormwater pollution?

During a storm when it rains, have you seen catch basins on the sides of the streets that collect stormwater? Water that runs off the street enters these catch basins and then goes into storm drains. These drains carry the stormwater to nearby rivers, streams, lakes and the ocean so the streets don't flood.

Only stormwater is supposed to go into the storm drains, but sometimes as stormwater moves along the street gutters, it carries pollution from the street, such as garbage, animal waste, and oil and grease from cars. Stormwater mixed with pollution is called stormwater pollution and should not enter into the storm drains. Examples of stormwater pollution include throwing garbage such as used cups and paper into the street, sweeping leaves or dirt into the street, and leaving pet waste on sidewalks or grass when it rains.

Isn't stormwater cleaned before going into the ocean, like sewage water?

No! In Los Angeles County, storm drains flow separately from sewer drains. In your house, used waters from sinks and toilets drain into underground sewer pipes and get cleaned at a treatment plant. Stormwater and the pollution it carries often flow from the streets and into the rivers, lakes, and the ocean without being cleaned.

How does stormwater pollution affect my community?

Stormwater pollution is bad for our health and bad for the health of the animals that live in rivers, lakes and the ocean. People and animals can get sick from touching polluted water. Sometimes beaches must close if too much pollution is found. Garbage and animal wastes found in your community can also make your neighborhoods look dirty and polluted. When there is too much garbage in catch basins, the streets may flood when it rains. Pollution in our storm drains, lakes, rivers and ocean must be cleaned, which can cost a lot of money.



What is the solution to stormwater pollution?

Below are a few things that kids can do to help protect our environment from stormwater pollution.

Don't throw garbage into the street. Garbage on the streets makes neighborhoods polluted. When it rains, garbage can clog catch basins and storm drains and make the streets flood. Any garbage dumped into the streets or catch basins can also be carried as stormwater pollution to nearby lakes, rivers and the ocean without being cleaned.

Pick up after your pet. Animal waste, when left on the ground, washes into storm drains and contaminates the beaches and ocean.

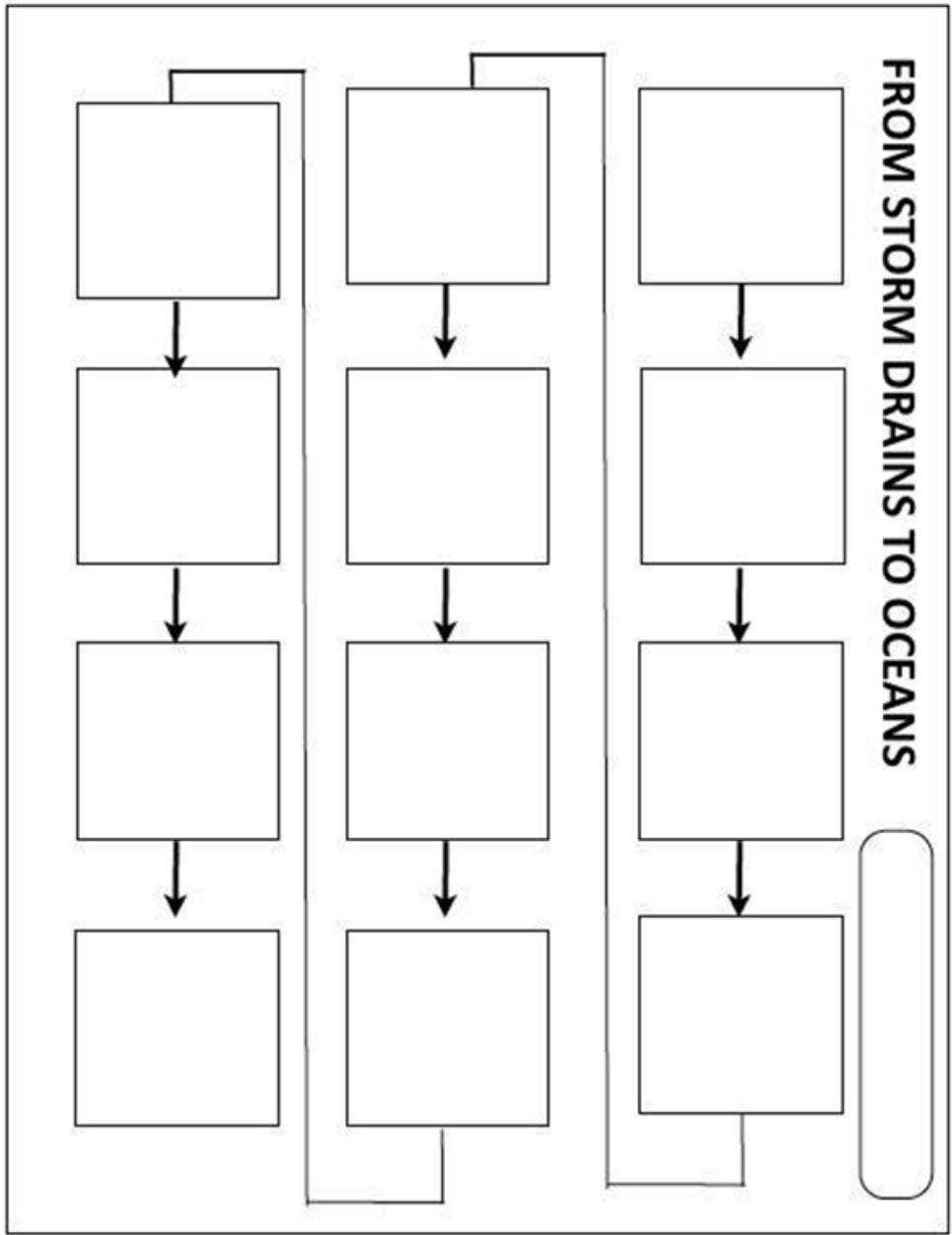
Put tree branches, leaves and other garden wastes in a bag or in a compost bin. Garden wastes, when placed on the sidewalk and in the streets, can wash into catch basins and clog the storm drains, causing the streets to flood.

Where can I get more information?

Call 1(888) CLEAN-LA to report clogged catch basins and get more information on preventing stormwater pollution and neighborhood clean-up events.

Source: Modified from the Los Angeles County Department of Public Works Stormwater Pollution Prevention "Frequently Asked Questions" <<https://dpw.lacounty.gov/epd/swims/help/faq.aspx>>

FROM STORM DRAINS TO OCEANS



HOW NATURAL SOLUTIONS HELP KEEP OUR BEACHES CLEAN



**STREAMS AND WETLANDS ARE ESSENTIAL FOR CLEAN BEACHES.
SUPPORT THE EPA'S CLEAN WATER PROTECTION RULE...
AND SWIM SAFER!**

Take action at nrdc.org/beaches

